

KIPS MAIN CAMPUS 30-A Johar Town, Lahore Ph: 042-35179001-4, 0321-5179001	LAHORE CAMPUSES					OTHER CITIES							
	PIONEER	JOHAR TOWN	MATRIC	FAISAL TOWN	TOWNSHIP	KASUR	GUJRANWALA	GUJRAT	SIALKOT	FAISALABAD	SARGODHA	JHANG	
	IQBAL TOWN	NISHTER BLOCK	SODIWAL	GULSHAN RAVI	GULBERG	RAWALPINDI	ISLAMABAD	ABBOTTABAD	MIRPUR	PESHAWAR	OKARA		
	OUTFALL	RAVI ROAD	SHADMAN	MUGHALPURA	CHAUBURJI	SAHIWAL	BUREWALA	MULTAN	D.G KHAN	BAHAWALPUR	R.Y KHAN		

MCAT

FULL LENGTH PAPER-5

AS PER UHS PATTERN

Total MCQs: 220
Max. Marks: 1100

Time Allowed: 150 Minute

PHYSICS

- Q.1** Typical source of γ -radiation used in medical treatment of cancer is
 A) Strontium-94 B) Cobalt-60
 C) Radon-222 D) All of these
- Q.2** Which expression could be correct for the velocity of ocean waves in terms of ' ρ ' the density of sea water, ' g ' the acceleration of free fall, h the depth of ocean and λ the wavelength
 A) $\sqrt{g\lambda}$ C) $\sqrt{\frac{g}{h}}$
 B) $\sqrt{\rho gh}$ D) $\sqrt{\frac{g}{\rho}}$
- Q.3** Time of the electron pulse given by a G.M. detector is about
 A) 10^{-4} second C) 10^{-6} second
 B) 10^{-5} second D) 10^{-6} minute
- Q.4** The dimension of $\frac{1}{\sqrt{\mu_0 \epsilon_0}}$ are
 A) $[LT^{-1}]$ C) $[ML^2T^{-2}]$
 B) $[ML^{-1}T^{-1}]$ D) $[ML^2T^{-3}]$
- Q.5** Some oils have about the same value of η whether hot or cold used as a lubricating oil are known as
 A) Viscostatic C) Isotropic
 B) Viscous D) Ideal fluid
- Q.6** A water sprinkler has 150 small holes each in area $2 \times 10^{-6} \text{ m}^2$ and the water coming from the holes at the rate of $3 \times 10^{-3} \text{ m}^3/\text{s}$. The speed at which the water coming out from the holes will be
 A) 20m/sec C) 10.m/sec
 B) 5m/sec D) 25m/sec
- Q.7** In a two meter high tank a hole is created at the middle then speed of the efflux will be
 A) 4.43m C) 5.53m
 B) 6.63m D) 7.73m
- Q.8** Half life of iron-59 is
 A) 45 days C) 8 days
 B) 16 days D) 90 daus
- Q.9** Colour of light having maximum speed in glass is
 A) Blue C) Red
 B) Yellow D) Same of all
- Q.10** The image formed by the objective of a compound microscope is
 A) Real and enlarged C) Virtual and enlarged
 B) Virtual and diminished D) Real and diminished
- Q.11** A 80 kg man receives whole body equivalent doze of 400 rem from neutrons whose relative biological effectiveness is 10. The total energy absorbed by the man is
 A) 80 Joule C) 50 Joule
 B) 32 Joule D) 10 Joule
- Q.12** Two coherent sources produce a dark fringe when the phase difference between interfering waves is
 A) Zero C) 2π
 B) $n\pi$ D) $(2n - 1)\pi$, $n = 1, 2, 3, 4$

Q.13 The $(K.E)_{\max}$ and $(P.E)_{\max}$ will become half of its value at

A) $x = \frac{x_0}{2}$

C) $x = \frac{x_0}{\sqrt{2}}$

B) $x = \frac{x_0}{3}$

D) $x = \frac{x_0}{4}$

Q.14 For X-rays, γ -rays and α -particles of 30 keV are more the “absorbed dose D” and “equivalent dose D_e ” are related as

A) $D = D_e$

C) $10 D = D_e$

B) $1.7 D = D_e$

D) $20 D = D_e$

Q.15 The frequencies of ultrasonic waves are

A) In audible range

C) Lower than 20 KHz

B) Greater than 20 KHz

D) Greater than 20 Hz

Q.16 To a stationary observer, the frequency of a sound source moving towards the observer appears to be

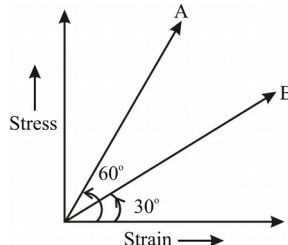
A) Lower than the actual frequency

B) Higher than the actual frequency

C) Same as the actual frequency

D) Lower or higher than the actual frequency depending upon speed of observer

Q.17 The stress versus strain graph for two wires A and B is shown in the figure. If Y_A and Y_B are the Young's Modulus of the materials then



A) $Y_B = 2Y_A$

C) $Y_A = Y_B$

B) $Y_B = 3Y_A$

D) $Y_A = 3Y_B$

Q.18 Polarization proves _____ nature of light

A) Corpuscular

C) Wave

B) Quantum

D) All of these

Q.19 The work done will be maximum under the process (given the initial and final states are same in each):

A) Adiabatic process

C) Isobaric process

B) Isothermal process

D) Isochoric process

Q.20 In an adiabatic change between the system and surroundings

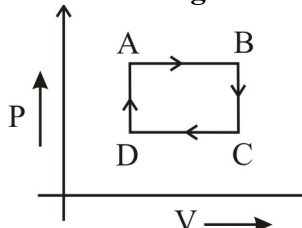
A) There is no transfer of heat, hence the temperature remains constant

B) There is no transfer of heat but the temperature must vary

C) There is transfer of heat in such a way that temperature remain constant

D) There is free transfer of heat as well as variation in temperature

Q.21 The net amount of work done in the following indicated diagram is



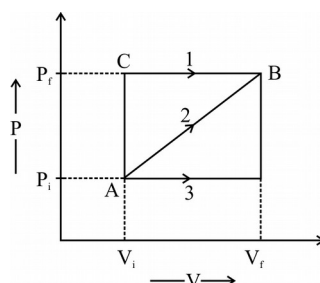
A) Area under the graph

C) Zero

B) Negative

D) Area bounded by the graph

Q.22 A system is taken from state A to B through three different paths 1, 2, 3. The work done is maximum in

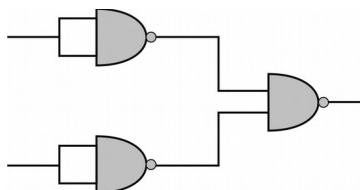


- A) Process 1
B) Process 3
C) Process 2
D) Equal in all processes

Q.23 A gas undergoes a process such that $\frac{V}{T} = \text{constant}$, then the process is

- A) Isothermal
B) Adiabatic
C) Isobaric
D) Isochoric

Q.24 The figure represents a



- A) OR Gate
B) AND Gate
C) NOT Gate
D) NAND Gate

Q.25 The known voltage is applied across the X-plates of the CRO and it is produced by the circuit know as

- A) Sweep or time base generator
B) Amplifier
C) Rectifier
D) Transformer

Q.26 When capacitors of capacitances C_1, C_2, C_3 are connected in series, the equivalent

- A) $C = C_1 + C_2 + C_3$
B) $C = \frac{C_1 C_2}{C_1 + C_2} + C_3$
C) $\frac{1}{C} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3}$
D) $C = \frac{C_1 C_2 C_3}{C_1 + C_2 + C_3}$

Q.27 Two wires A and B are made of copper both wires are 1m long but wire A is 1mm. thick and wire B is 2mm Thick. The specific resistance

- A) More for wire A
B) Same for both wires A and B
C) More for wire B
D) Cannot be compared

Q.28 A piece of Aluminium (Al) and a piece of Germanium (Ge) are cooled from T_1 K to T_2 K. The resistance of

- A) Each of them increases
B) Al increases and that of Ge decreases
C) Each of them decreases
D) Al decreases and that of Ge increases

Q.29 The value of μ_0 can be written as

- A) $4\pi \times 10^{-7} \text{ Wb}$
B) $4\pi \times 10^{-7} \text{ VSA}^{-1}$
C) $4\pi \times 10^{-7} \text{ Tesla}$
D) $4\pi \times 10^{-7} \text{ Hm}^{-1}$

Q.30 A highly coherent and intense beam of lights produced by stimulated emission is

- A) X-rays
B) Laser
C) Gamma rays
D) None of these

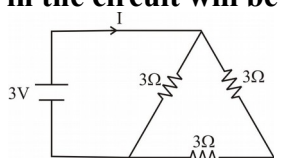
Q.31 Magnetic field due to current in a solenoid can be written as

- A) $B = \mu_0$
B) $B = \frac{\mu_0}{nI}$
C) $B = \mu_0 nI$
D) $B = \frac{nI}{\mu_0}$

Q.32 The amount of energy that is converted into X-rays when the electron strikes the target is

- A) 0.1%
B) 0.3%
C) 0.2%
D) 0.4%

- Q.33** A 3V battery with negligible internal resistance is connected in a circuit as shown in a figure given. The current I in the circuit will be



- A) 1A
B) 2A
C) 1.5 A
D) $\frac{1}{3}$ A
- Q.34** CT scanning is the abbreviated name of
A) Computed technology
B) Computed Tomography
C) Computed Technique
D) Computerized Technique
- Q.35** The minimum wavelength of X-rays produced if 1 KV potential difference is applied across the anode and cathode of the tube is
A) 1.24×10^{-10} m
B) 2.78×10^{-14} m
C) 7.92×10^{-20}
D) 12 Pm
- Q.36** X-rays are also known as
A) Roentgen rays
B) Planks range
C) Maxwell rays
D) Einstein rays
- Q.37** In flesh, light element like carbon, hydrogen and oxygen predominate. These elements allow _____ amount of incident X-rays to pass through them
A) Small
B) Equal
C) Greater
D) Zero
- Q.38** The value of the metastable state for Neon is
A) 20.66eV
B) 19.23 eV
C) 20.61 eV
D) 18.70 eV
- Q.39** In helium Neon Laser Neon = 15% and Helium = 85% used. The lasing gas in this unit is
A) Helium
B) Both
C) Neon
D) None of these
- Q.40** The charge on neutron is equal to that on a/an
A) Proton
B) Positron
C) Electron
D) Atom
- Q.41** A body is performing SHM with time period T. How much time it takes to move from mean position through a distance half of its amplitude
A) T/4
B) T/8
C) T/2
D) T/12
- Q.42** The rem stands for
A) Roentgen equivalent in man
B) Red equation measure
C) Radiation equivalent in man
D) Road equivalent mass
- Q.43** Rotation between half life and decay constant is
A) $T_{1/2} = \frac{0.396}{\lambda}$
B) $\lambda = \frac{0.963}{T_{1/2}}$
C) $\lambda = \frac{0.693}{T_{1/2}}$
D) $\lambda = \frac{0.693}{T_{1/2}}$
- Q.44** The S.I unit of decays constant is
A) m^{-1}
B) A^{-1}
C) kg^{-1}
D) s^{-1}

CHEMISTRY

- Q.45** Which of the followings is not a property of crystalline solids
A) Definite shape
B) High density
C) Isotropy
D) Low compressibility
- Q.46** Which quantum number help us to study orientation of an orbital in space
A) Principal quantum number
B) Spin quantum number
C) Azimuthal quantum number
D) Magnetic quantum number

- Q.47** Which one of the following sub-shells has greater energy according to Auf- bau principle
A) 4s
B) 4d
C) 4p
D) 4f
- Q.48** The compound which contain highest ionic character
A) NaCl
B) KBr
C) LiCl
D) CsF
- Q.49** Which one of the following molecules has zero dipole moment
A) BF₃
B) CHCl₃
C) PCl₅
D) Both "A" and "B"
- Q.50** Caloric value of fuel can be determined by
A) Copper calorimeter
B) Bomb calorimeter
C) Glass calorimeter
D) Flame calorimeter
- Q.51** The heat of neutralization of given reaction is -57 kJ $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$
By using this information, what could be the theoretical value for heat liberated in the following neutralization reaction $\text{Ba}(\text{OH})_2 + 2\text{HCl} \rightarrow \text{BaCl}_2 + 2\text{H}_2\text{O}$
A) -57 kJ
B) -114kJ
C) -76kJ
D) -228kJ
- Q.52** On adding table salt in water
A) The melting point and boiling point increase
B) The melting point and boiling point decrease
C) The melting point increases and boiling point decreases
D) The melting point decrease and boiling point increases
- Q.53** Which of the following solutions have maximum percentage ionization
A) 0.1M CH₃COOH
B) 0.05M CH₃COOH
C) 0.01M CH₃COOH
D) 0.5M CH₃COOH
- Q.54** Stronger is the oxidizing agent, greater is the
A) Oxidation potential
B) Standard reduction potential
C) Reduction potential
D) Redox potential
- Q.55** Which of following on electrolysis will produce metal on cathode in aqueous solution
A) PbSO₄
B) ZnSO₄
C) FeSO₄
D) CuSO₄
- Q.56** Which of the following has lowest pKa value
A) Phenol
B) Acetic acid
C) Water
D) Ethyl alcohol
- Q.57** Total number of basic amino acids out of 20 are
A) 2
B) 6
C) 4
D) 8
- Q.58** Which of the following is not a polymer of α-D-glucose
A) Cellulose
B) Amylopectin
C) Amylose
D) Glycogen
- Q.59** The amino acid which do not exhibit optical isomerism
A) Valine
B) Glycine
C) Tyrosine
D) Alanine
- Q.60** Lysine is a type of amino acid
A) Neutral
B) Basic
C) Acidic
D) Amphoteric
- Q.61** Which one of the following is alanine
A) C₆H₅NH₂
B) NH₂CH₂COOH
C) CH₃-CH(NH₂)-COOH
D) HOOCCH(NH₂)CH₂COOH
- Q.62** Amino acid is basic in nature
A) Histidine
B) Proline
C) Tyrosine
D) Alanine
- Q.63** Carbohydrates are polyhydroxy compounds of
A) Glucose
B) Oligosaccharides
C) Glyceraldehydes
D) Aldehydes and ketones
- Q.64** Water insoluble component of starch is
A) Amylopectin
B) Cellulose
C) Amylose
D) None of these

- Q.65** The nitrogenous base different in RNA as compared to DNA is
 A) Cytosine
 B) Adenine
 C) Thymine
 D) Guanine
- Q.66** Carbohydrates are stored in human body as the polysaccharide
 A) Glycogen
 B) Starch
 C) Glucose
 D) Galactase
- Q.67** Denaturation of protein is used by
 A) Addition of sulphuric acid
 B) Addition of dichromate ion
 C) Changing the pH
 D) All of these
- Q.68** In the reaction, $4\text{NH}_3 + 5\text{O}_2 \rightarrow 4\text{NO} + 6\text{H}_2\text{O}$, when one mole of ammonia and one mole of oxygen are made to react to completion, then
 A) 1.0 mol of H_2O is produced
 B) 1.5 mol of NO is formed
 C) All the oxygen is consumed
 D) All the ammonia is consumed
- Q.69** In which set all isotopes have maximum natural abundance
 A) $^{40}_{20}\text{Ca}$, $^{12}_6\text{C}$, $^{35}_{17}\text{Cl}$
 B) $^{40}_{20}\text{Ca}$, $^{56}_{26}\text{Fe}$, $^{24}_{12}\text{Mg}$
 C) $^{40}_{20}\text{Ca}$, $^{23}_{11}\text{Na}$, $^{37}_{17}\text{Cl}$
 D) $^{20}_{10}\text{Ne}$, $^{32}_{16}\text{S}$, $^{14}_7\text{N}$
- Q.70** Two balloons are filled with equal moles of hydrogen and helium gas at STP. Which balloon will contract first if same size holes are made in both of them
 A) Both will contract at same time
 B) Balloon filled with hydrogen gas
 C) Balloon filled with Helium gas
 D) Only hydrogen filled balloon will contract
- Q.71** In all living organisms, nucleic acids are responsible to their ability
 A) To reproduce and store genetic information
 B) To transmit genetic information
 C) To undergo mutation
 D) All of these
- Q.72** Ozone acts as pollutant when present in
 A) Troposphere
 B) Stratosphere
 C) Mesosphere
 D) Thermosphere
- Q.73** A primary pollutant is that
 A) Which causes cancer
 B) Is waste product of an industry
 C) Whose concentration cannot be controlled
 D) Which corrodes the metals only
- Q.74** The pH of a neutral sample of water at 100°C when $K_w = 1.0 \times 10^{-12}$ is
 A) 7
 B) 6
 C) 0
 D) 12
- Q.75** The two steps involved in the gas phase reaction $\text{X} + 2\text{Y} \rightarrow \text{XY}_2$ are shown below
 $\text{X} + \text{Y} \xrightarrow{\text{slow}} \text{XY}$, $\text{XY} + \text{Y} \xrightarrow{\text{Fast}} \text{XY}_2$
 What is the rate equation for the overall reaction
 A) Rate = $[\text{x}]^1[\text{y}]^1$
 B) Rate = $[\text{x}]^0[\text{y}]^1$
 C) Rate = $[\text{x}]^0[\text{y}]^2$
 D) Rate = $[\text{xy}]^1[\text{y}]^1$
- Q.76** Which of the following statements about the reaction given below is/are correct
 $\text{IO}_3^-(\text{aq}) + 2\text{I}^-(\text{aq}) + 6\text{H}^+(\text{aq}) + 6\text{Cl}^-(\text{aq}) \rightarrow 3\text{ICl}_2^-(\text{aq}) + 3\text{H}_2\text{O}(\text{l})$
 A) The oxidation number of iodine in the iodate ion, $\text{IO}_3^-(\text{aq})$, changes from +5 to +1
 B) The oxidation number of iodine in the iodide ion I^- , changes from -1 to +2
 C) The oxidation number of chlorine in the iodide ion I^- , changes from -1 to -2
 D) Iodate ions are oxidized
- Q.77** The one having highest ionization energy is
 A) Mg
 B) Al
 C) S
 D) P
- Q.78** The electronic configuration of elements across each period in the periodic table starts with a s-subshell of the new shell and ends with
 A) Small subshell
 B) The next higher shell
 C) Different subshell of the same subshell
 D) p-subshell of the same shell
- Q.79** Why binary compounds of oxygen and fluorine are called fluorides rather than oxides
 A) They always contain F-ions
 B) O atom is larger than F atom
 C) F is more electronegative than O
 D) O is better oxidizing agent
- Q.80** All the elements of group IVA do not have which of the property in common
 A) Show four valency
 B) Form tetrahalide
 C) Show inert pair effect
 D) Form dioxide

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- Q.81** The tendency of the transition metals to form complexes is not explained by
 A) Small size of the metal ion
 B) Low basicity of metal ions
 C) Large ionic or nuclear charge
 D) Non-availability of d-orbitals
- Q.82** Oxidation number of cobalt in the complex ion $\text{Na}[\text{Co}(\text{NH}_3)_2\text{Cl}_4]$ is _____
 A) -1
 B) -2
 C) +2
 D) +3
- Q.83** _____ is used as catalyst in Haber's process for NH_3 gas manufacture
 A) Iron
 B) Carbon
 C) Copper
 D) Silver
- Q.84** Disinfection of water by chlorine is done by production of
 A) HCl
 B) HOCl
 C) NCl_3
 D) NHCl_2
- Q.85** Ammonia can be dried by
 A) Conc. H_2SO_4
 B) P_4O_{10}
 C) CaO
 D) Anhydrous CaCl_2
- Q.86** Sulphur dioxide causes pollution by increasing
 A) Alkalinity
 B) Acidity
 C) Neutrality
 D) Rainfall
- Q.87** The name of the compound $\text{HC} \equiv \text{C} - \text{CH}_2 - \text{CH} = \text{CH}_2$
 A) 1-penten-4-yne
 B) 4-penten-1-yne
 C) 2-penten-3-yne
 D) 1-pentyn-4-ene
- Q.88** What is the common name of the following compound

$$\begin{array}{c} \text{HO} - \text{CH} - \text{COOH} \\ | \\ \text{HO} - \text{CH} - \text{COOH} \end{array}$$

 A) Lactic acid
 B) Oxalic acid
 C) Tartaric acid
 D) Maleic acid
- Q.89** Which reaction would not give propene as one product
 A) Adding an excess of concentrated sulfuric acid to propan-1-ol
 B) Adding warm aqueous sodium hydroxide to 2-bromopropane
 C) Adding warm ethanolic sodium hydroxide to 1-bromopropane
 D) Passing propan-2-ol vapour over heated aluminium oxide
- Q.90** Which of the followings can be used to distinguish between alkane and alkene
 A) aq. Br_2
 B) Alkaline KMnO_4
 C) Ozone
 D) Both "A" and "B"
- Q.91** 1, 2-Dibromo-3-chloropropane (DBCP) has been used in the control of earthworms in agricultural land. Which of the following would be the best synthesis of this compound
 A) $\text{CH}_3\text{CH}_2\text{CH}_2\text{Cl} + 2\text{Br}_2 \rightarrow \text{DBCP} + 2\text{HBr}$
 B) $\text{CH}_3\text{CHBrCH}_2\text{Br} + \text{Cl}_2 \rightarrow \text{DBCP} + \text{HCl}$
 C) $\text{CH}_2 = \text{CHCHBr}_2 + \text{HCl} \rightarrow \text{DBCP}$
 D) $\text{CH}_2 = \text{CHCH}_2\text{Cl} + \text{Br}_2 \rightarrow \text{DBCP}$
- Q.92** This molecule contains two functional groups X ($>\text{C}=\text{C}<$) and Y ($>\text{C}=\text{O}$)
 What is a true statement about the functional groups X or Y
 A) X will undergo Nucleophilic addition
 B) Y will undergo Nucleophilic addition
 C) X will undergo electrophilic substitution
 D) Y will undergo electrophilic substitution
- Q.93** When a mixture of ethanol and methanol is heated in the presence of concentrated H_2SO_4 the resulting organic product or products is/are
 A) $\text{CH}_3\text{OC}_2\text{H}_5$
 B) CH_3OCH_3 and $\text{C}_2\text{H}_5\text{OC}_2\text{H}_5$
 C) $\text{CH}_3\text{OC}_2\text{H}_5$ and CH_3OCH_3
 D) $\text{CH}_3\text{OC}_2\text{H}_5$, CH_3OCH_3 and $\text{C}_2\text{H}_5\text{OC}_2\text{H}_5$

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- Q.94** The compound hex – 3 – en – 1 – ol, P, has a strong “leafy” smell of newly cut grass and is used in perfumery
 $\text{CH}_3\text{CH}_2\text{CH}=\text{CHCH}_2\text{CH}_2\text{OH}$
 What is produced when P is treated with an excess of hot concentrated acidic KMnO_4
 A) $\text{CH}_3\text{CH}_2\text{CH}(\text{OH})\text{CH}(\text{OH})\text{CH}_2\text{CH}_2\text{OH}$ C) $\text{CH}_3\text{CH}_2\text{CHO}$ and $\text{OCHCH}_2\text{CH}_2\text{OH}$
 B) $\text{CH}_3\text{CH}_2\text{CH}=\text{CHCH}_2\text{CO}_2\text{H}$ D) $\text{CH}_3\text{CH}_2\text{CO}_2\text{H}$ and $\text{HO}_2\text{CCH}_2\text{CO}_2\text{H}$
- Q.95** The functional group in a primary alcohol is $-\text{CH}_2\text{OH}$
 Which reagent reacts with a primary alcohol, under suitable conditions, to give a product with the same number of oxygen atoms as the alcohol
 A) Al_2O_3 C) $\text{CH}_3\text{CO}_2\text{H}$
 B) HBr D) Na
- Q.96** Which of the following is oxidized to the corresponding carbonyl compound
 A) o-nitrophenol C) 2-hydroxypropane
 B) 2-methyl-2-hydroxypropane D) Phenol
- Q.97** Fehling’s solution is
 A) An alkaline solution containing silver nitrate complex
 B) An alkaline solution containing a cupric tartarate complex
 C) An alkaline solution containing a cupric citrate complex
 D) An alkaline solution of mercuric sulphate
- Q.98** One of the following does not have alpha hydrogen
 A) Formaldehyde C) Phenyl acetaldehyde
 B) Acetaldehyde D) Acetophenone
- Q.99** Acetone and propen –2–ol are
 A) Positional isomers C) Keto–enol tautomers
 B) Geometrical isomers D) Chain isomers
- Q.100** A compound X has the properties below
 It is a liquid at room temperature and atmospheric pressure
 It does not mix completely with water
 It does not decolourise acidified potassium manganate(VII)
 What could X be
 A) Ethene C) Ethyl ethanoate
 B) Ethanoic acid D) Ethanol
- Q.101** The reagent that can be used to distinguish between methanoic acid and ethanoic acid is
 A) Sodium carbonate solution C) Ammonical silver nitrate solution
 B) Phenolphthalein D) Neutral ferric chloride solution
- Q.102** In which of the following α -hydrogen is more acidic
 A) Acetic acid C) 2-Methylpropanoic acid
 B) Propanoic acid D) 3-Methylbutanoic acid

ENGLISH

Directions: Choose the right option to complete the following sentences.

- Q.103** Most so-called "single wavelength" lasers actually produce radiation in several modes having slightly _____ frequencies , often not in a single polarization.
 A) different B) complete C) coherent D) tragic
- Q.104** The people who live _____ to me are wonderful next door neighbors.
 A) reticent B) apposite C) caustic D) adjacent
- Q.105** She managed to _____ a ticket for cricket match.
 A) obscure B) procure C) improvise D) preclude
- Q.106** David is too _____ as far as his food habits are concerned.
 A) curious B) interesting C) involved D) fastidious

SPOT THE ERROR

In the first type of sentences, some segments of each sentence are underlined. Your task is to identify that underlined segment of the sentence, which contains the mistake that needs to be corrected.

- Q.107** There is a new Oriental restaurant in town, shouldn't it?
A) B) C) D)
- Q.108** I would rather you give the award to whoever in the team deserves it.
A) B) C) D)
- Q.109** Trade exists for man but most people concentrate on a small aspect of production, trading for anothers products.
A) B) C) D)
- Q.110** In ancient times and throughout the Middle Ages, many people believed that the earth is motionless.
A) B) C) D)
- Q.111** Your argument is simply abstruse as there is no clarity of thought and coherence in ideas and it also lack vision.
A) B) C) D)
- Q.112** The man felt his hair flutter and the tissues of his body drew tight as if he were standing at the centre of a vacuum.
A) B) C) D)

Directions:

In each question in the following, four alternative sentences are given. Choose the **CORRECT** one and fill the circle corresponding to that letter in the answer sheet.

- Q.113** A) It is almost as hopeless to try to burn a book without opening it as to try to burn a piece of granite.
B) It is almost as hopeless trying to burn a book without opening it as trying to burn a piece of granite.
C) It is almost as hopeless to try burning a book without opening it as to try burning a piece of granite.
D) It is almost so hopeless to try to burn book without opening it as to try to burn piece of granite.
- Q.114** A) The armies of the democracies had been hailed not so much as conquerors and as deliverers.
B) The armies of the democracies had been hailed not so much as conquerors but like deliverers.
C) The armies of the democracies had been hailed not so much as conquerors but as deliverers.
D) The armies of the democracies has been hailed not so much as conquerors but as deliverers.
- Q.115** A) A few people find jobs a couples of months every year.
B) Few people find jobs a couple of months every year.
C) A few people find jobs a couple of months every year.
D) A few peoples find jobs couple of months every year.
- Q.116** A) Mr. Duncan does not know where did they put the lawn mower after they had finished using it.
B) Mr. Duncan does not know where they did put the lawn mower after they had finished using it.
C) Mr. Duncan does not know where they put the lawn mower after they had finished using it.
D) Mr. Duncan does not know where to put the lawn mower after they had finished using it.
- Q.117** A) Never before so many women have received law degrees as today.
B) Never before have so many women received law degrees as today.
C) The women aren't ever received law degrees as today.
D) Women who have never received law degrees as today.

PIONEER	JOHAR TOWN	MATRIC	FAISAL TOWN	TOWNSHIP
IQBAL TOWN	NISHTER BLOCK	SODIWAL	GULSHAN RAVI	GULBERG
OUTFALL	RAVI ROAD	SHADMAN	MUGHALPURA	CHAUBURJI

KASUR	GUJRANWALA	GUJRAT	SIALKOT	FAISALABAD	SARGODHA	JHANG
RAWALPINDI	ISLAMABAD	ABBOTTABAD	MIRPUR	PESHAWAR	OKARA	
SAHIWAL	BUREWALA	MULTAN	D.G KHAN	BAHAWALPUR	R.Y KHAN	

- Q.118** A) A few stars are known who are hardly bigger than the earth.
B) A few stars are known which are hardly no bigger than the earth.
C) A few stars are known which are hardly bigger than the earth.
D) A few stars are known, that are hardly bigger than the earth.
- Q.119** A) It is probable that the prototype cellular motor might be ready for testing around the end of next year.
B) It is probable that the prototype cellular motor may be ready for testing about he end of next year.
C) It is probable that the prototype cellular motor might be ready for testing toward next year's end.
D) It is probable that the prototype cellular motor will be ready for testing toward the end of next year.
- Q.120** A) Mark Twin refused either to ignore the moral blindness of his society or spare the readers' sensibilities.
B) Mark Twin refused either to ignore the moral blindness of his society nor spare the readers sensibilities.
C) Mark Twin refused to ignores either the moral blindness of his society or spare the readers sensibilities.
D) Mark Twin refused either to ignore the moral blindness of his society or spared the readers sensibilities.
- Q.121** A) He does posses altruistic behavior.
B) He does possesses altruistic behavior.
C) He does possessing altruistic behavior.
D) He do possessed altruistic behavior.
- Q.122** A) Why did you disagree with me?
B) Why did you disagree to me?
C) Why did you disagree on me?
D) Why did you disagree by me?

Directions:

In each of the following question, four alternative meanings of a word are given. You have to select the nearest correct meaning of the given word and fill the appropriate Bubble / Circle on the MCQ Response Form.

Q.123 INERTIA

- A) proclivity B) inactivity C) internal D) external

Q.124 JEREMIAD

- A) diatribe B) encomium C) fabricate D) delegate

Q.125 INCARNATE

- A) abstract B) embodied C) instigate D) rediscover

Q.126 JADED

- A) incurious B) innovative C) faded D) expensive

Q.127 JOCUND

- A) jovial B) adamant C) frail D) eternal

Q.128 MEMENTO

- A) pronto B) urban C) vagueness D) token

Q.129 LODESTAR

- A) load B) deviation C) fracas D) ideal

Q.130 KERFUEFLE

- A) fuss B) toss C) composure D) serene

Q.131 LITURGY

- A) litter B) lethargy C) service D) vintage

Q.132 MAVERICK

- A) supportive B) collective C) vindictive D) individualist

BIOLOGY

- Q.133** Branch of Biology which deals with the structure of organisms, the cells and their organelles at molecular level is:
- A) Cell Biology
B) Biochemistry
C) Molecular Biology
D) Biotechnology
- Q.134** All living and non-living matter is formed of simple units called:
- A) Atoms
B) Organelles
C) Cells
D) Individuals
- Q.135** _____ are primary organs for food manufacture in plants:
- A) Roots
B) Stem
C) Leaves
D) Flowers
- Q.136** Pasteurization is preservation of milk and milk products through:
- A) Radiation
B) Filtration
C) Temperature
D) Chemicals
- Q.137** Organelles found only in animal cells as compared to plant cells are:
- A) Vacuole & Golgi apparatus
B) Mitochondria & Chloroplast
C) Centriole & Lysosome
D) Ribosome & Peroxisome
- Q.138** Particles having some difficulty in crossing cell membrane as compared to others are:
- A) Water molecules
B) Gas molecules
C) Neutral particles
D) Charged particles
- Q.139** The outer membrane of nuclear envelope is at places continuous with:
- A) Nucleoplasm
B) Cell membrane
C) Endoplasmic reticulum
D) Cell wall
- Q.140** The rough surfaced endoplasmic reticulum are involved in synthesis of:
- A) Carbohydrates
B) Proteins
C) Lipids
D) DNA
- Q.141** The proteins or enzymes which have to be transported out of the cell pass through:
- A) Ribosomes
B) Endoplasmic reticulum
C) Golgi bodies
D) Mitochondria
- Q.142** All of the following functions occur inside mitochondria except
- A) Krebs cycle
B) Anaerobic respiration
C) Fatty acid metabolism
D) Protein synthesis
- Q.143** Each kinetochore of a metaphase chromosome gets _____ fibers from both poles.
- A) 1
B) 2
C) 3
D) 4
- Q.144** Meiosis is special type of cell division that occurs in:
- A) Haploid somatic cells
B) Diploid somatic cells
C) Diploid germ cells
D) Haploid germ cells
- Q.145** Reduction phase of meiosis I is
- A) Prophase I
B) Metaphase I
C) Anaphase I
D) Telophase I
- Q.146** Individuals with Klinefelter's syndrome have following combination:
- A) XXX
B) XXY
C) XYY
D) XO
- Q.147** A triose involved in photosynthesis and respiration is:
- A) G3P
B) Ribose
C) Glucose
D) Fructose
- Q.148** These are most complex and most abundant carbohydrates in nature.
- A) Monosaccharides
B) Disaccharides
C) Oligosaccharides
D) Polysaccharides
- Q.149** Proteins are polymers of amino acids, the compounds containing:
- A) C,H,O,S,Mg
B) C,H,O,N,S
C) C,H,O,N,P
D) C,H,O,N,Mg
- Q.150** Fatty acids are the organic compounds found in all of the following except:
- A) Acylglycerols
B) Phospholipids
C) Waxes
D) Terpenoids

- Q.151** The compound formed by combination of a base and a pentose sugar is called:
A) Purine
B) Pyrimidine
C) Nucleoside
D) Nucleotide
- Q.152** If the non-protein part is covalently bonded with an enzyme, it is known as:
A) Activator
B) Co-enzyme
C) Prosthetic group
D) Apoenzyme
- Q.153** NAD is an example of:
A) Enzyme
B) Coenzyme
C) Activator
D) Prosthetic group
- Q.154** An enzyme that works in acidic medium is:
A) Sucrase
B) Catalase
C) Lipase
D) Arginase
- Q.155** Koshland presented:
A) Scale model
B) Semi-conservative model
C) Lock & key model
D) Induce fit model
- Q.156** This disease occurs in the mouth, on the lips and at other skin sites.
A) Small pox
B) Herpes simplex
C) Measles
D) Poliomyelitis
- Q.157** The structure present in all the bacterial cells is:
A) Capsule
B) Ribosome
C) Pili
D) Cell wall
- Q.158** Cell wall is present in all of the following bacteria except:
A) Archaeobacteria
B) Mycoplasma
C) Gram +ive bacteria
D) Gram -ive bacteria
- Q.159** Fungi useful in getting soya sauce and soya paste from soya bean plant are:
A) Yeasts
B) Mushrooms
C) Penicillium
D) Aspergillus
- Q.160** Maximum regeneration in animals is shown by:
A) Sponges
B) Cnidarians
C) Flatworms
D) Roundworms
- Q.161** It is a parasite that lives in bile duct and complete its life cycle in two hosts, a snail sheep or man:
A) Fasciola hepatica
B) Taenia solium
C) Enterobius vermicularis
D) Ancylostoma duodenale
- Q.162** Sleeping sickness is caused by:
A) Plasmodium
B) Trypanosoma
C) Anopheles
D) Tse-tse Fly
- Q.163** Jelly like, non-cellular mesoglea is present in animals that have:
A) Bilateral symmetry
B) Coelom
C) Diploblastic organization
D) Triploblastic organization
- Q.164** The acidic fruit of Tamarindus indica are edible and rich source of:
A) Acetic acid
B) Butyric acid
C) Citric acid
D) Tartaric acid
- Q.165** It is the most important muscular organ that plays most important role in selection of food:
A) Nose
B) Teeth
C) Tongue
D) Palate
- Q.166** Salivary gland that produces saliva with mucus only is:
A) Parotid glands
B) Sublingual glands
C) Submaxillary glands
D) None of these
- Q.167** pH of stomach is maintained at range:
A) 1-2
B) 2-3
C) 4-5
D) 6-8
- Q.168** Pancreatic amylase called amylopsin commonly acts on:
A) Starch
B) Glycogen
C) Cellulose
D) Chitin
- Q.169** Hair and mucus trap the dust particle from air in:
A) Nostrils
B) Nasal cavities
C) Pharynx
D) Trachea

- Q.170 The functional units of lungs are:**
 A) Bronchioles
 B) Alveoli
 C) Air sacs
 D) Parabronchi
- Q.171 The most abundant type of blood cells per mm³ of blood are:**
 A) Erythrocytes
 B) Leucocytes
 C) Thrombocytes
 D) Granulocytes
- Q.172 Main proteins involved in maintaining colloid osmotic pressure of blood are:**
 A) Albumin
 B) Globulins
 C) Fibrinogen
 D) Prothrombin
- Q.173 Inferior vena cava receives blood from all of the following except:**
 A) Iliac veins
 B) Renal veins
 C) Hepatic portal veins
 D) Hepatic veins
- Q.174 All of the following factors decrease the capacity of haemoglobin to combine with oxygen except:**
 A) Increased temperature
 B) Increased pCO₂
 C) Increased pH
 D) Increased H⁺ concentration
- Q.175 After filtration of blood and further processing through tubular system urine is collected in a central cavity called:**
 A) Hilus
 B) Pelvis
 C) Urinary bladder
 D) Urethra
- Q.176 In juxtamedullary nephrons, additional capillaries extend down to form a loop of vessels called:**
 A) Peritubular network
 B) Glomerulus
 C) Loop of Henle
 D) Vasa recta
- Q.177 Counter-current multiplier causes gradual osmotic outflow of water from filtrate as it passes through:**
 A) Proximal convoluted tubule
 B) Distal convoluted tubule
 C) Descending limb of Henle's loop
 D) Ascending limb of Henle's loop
- Q.178 Non-surgical removal of kidney stone is:**
 A) Lithotripsy
 B) Haemodialysis
 C) Peritoneal dialysis
 D) Chemotherapy
- Q.179 Diffused type of nervous system is present in animals that belong to:**
 A) Poriferans
 B) Cnidarians
 C) Platyhelminthes
 D) Chordates
- Q.180 It is largest part of brain divided into two halves:**
 A) Cerebrum
 B) Limbic system
 C) Thalamus
 D) Cerebellum
- Q.181 Functionally spinal nerves are:**
 A) Sensory only
 B) Motor only
 C) Mixed nerves
 D) Cerebral nerves
- Q.182 It is believed to be caused by cell death in a brain area that produces dopamine:**
 A) Parkinson's diseases
 B) Alzheimer's disease
 C) Grave's diseases
 D) Epilepsy
- Q.183 Type of neurons which cannot be found in peripheral nervous system are:**
 A) Sensory neurons
 B) Associative neurons
 C) Motor neurons
 D) Mixed neurons
- Q.184 Testes are present outside the body in a sac-like structure called:**
 A) Peritonium
 B) Pelvis
 C) Scrotum
 D) Bladder
- Q.185 Testosterone is produced from:**
 A) Germinal cells
 B) Interstitial cells
 C) Follicular cells
 D) Sertoli cells
- Q.186 Uterus opens into the vagina through:**
 A) Oviduct
 B) Fallopian tube
 C) Urethra
 D) Cervix
- Q.187 Uterus gains maximum thickness during:**
 A) Follicular phase
 B) Proliferative phase
 C) Secretory phase
 D) Menstrual phase

- Q.188 An example of paired bone of cranium:**
 A) Frontal C) Occipital
 B) Zygomatic D) Temporal
- Q.189 Framework of the palm of hand is made by:**
 A) Carpals C) Metatarsals
 B) Metacarpals D) Phalanges
- Q.190 All of the following are characteristics of smooth muscles except:**
 A) Unstriated C) Uninucleate
 B) Spindle shaped D) Fast acting
- Q.191 During muscle contraction, calcium ions bind to:**
 A) Actin C) Troponin
 B) Tropomyosin D) Myosine
- Q.192 All the muscle fibers innervated by a single motor neuron form:**
 A) Sarcomere C) T system
 B) T tubule D) Motor unit
- Q.193 All of the following are direct causes of muscle cramp except:**
 A) Hypoglycemia C) Dehydration
 B) Hypocalcemia D) Electrolyte depletion
- Q.194 An example of hormone that is steroid in nature is:**
 A) Insulin C) Vasopressin
 B) Epinephrin D) Cortisone
- Q.195 Acromegaly (Abnormal development of hands, feet, jaws etc) is the result of over production of:**
 A) Growth hormone C) Thyroid hormones
 B) Thyroid stimulating hormone D) Gonadotrophic hormones
- Q.196 Oxytocin acts on smooth muscles of:**
 A) Uterus C) Ducts of mammary glands
 B) Blood vessels D) All "A" "B" "C"
- Q.197 Hormone produced by mucosa of the pyloric region of the stomach:**
 A) Pepsin C) Trypsin
 B) Gastrin D) Secretin
- Q.198 The capacity to recognize the intrusion of foreign agents and preparation of body against it is called:**
 A) Inflammation C) Digestion
 B) Immunity D) Infection
- Q.199 Cell mediated immune response is dependent upon:**
 A) B lymphocytes C) Neutrophils
 B) T lymphocytes D) Macrophages
- Q.200 Passive immune response is:**
 A) Stimulus for antibody production C) Long lasting
 B) Immediate D) Attained through vaccine
- Q.201 Disulphide linkages in an antibody molecule are not found between:**
 A) Two light chains C) Light & heavy chain
 B) Two heavy chains D) Heavy & light chain
- Q.202 Most abundant and most important photosynthetic pigment in plants is:**
 A) Chlorophyll a C) Xanthophylls
 B) Carotenoid D) Chlorophyll b
- Q.203 The difference between chlorophyll 'a' and 'b' is that -CH₃ group is replaced by:**
 A) -C₂H₅ C) -CHO
 B) -COOH D) -CH₂OH
- Q.204 During non-cyclic phosphorylation, holes of PS II are filled by electrons provided by:**
 A) Light C) PSII
 B) Water D) ETC
- Q.205 The chemical in Calvin cycle that is reduced by NADPH of light reactions is:**
 A) 3-PGA C) G3P
 B) 1,3-BPG D) RuP

- Q.206 Phase of cellular respiration that helps pyruvate to enter in Krebs cycle is:**
 A) Glycolysis
 B) Pyruvic acid oxidation
 C) Citric acid cycle
 D) Oxidative phosphorylation
- Q.207 Gene of interest can be made from mRNA by using:**
 A) Restriction endonuclease
 B) Reverse transcriptase
 C) DNA ligase
 D) RNA polymerase
- Q.208 This enzymes seals the foreign piece of DNA into the vector:**
 A) Restriction endonuclease
 B) Reverse transcriptase
 C) DNA ligase
 D) RNA polymerase
- Q.209 DNA polymerase used in PCR is obtained from:**
 A) Thermus thermophilus
 B) Thermus aquaticus
 C) Thermus pseudomonas
 D) Thermus biferengas
- Q.210 Insertion of genetic material into human cells for the treatment of a disorder is:**
 A) Genetic engineering
 B) Recombinant DNA technology
 C) Gene therapy
 D) Gene cloning
- Q.211 Genes are introduced in bone marrow stem cells by using retrovirus in treatment of:**
 A) SCID
 B) Familial hypercholesterolemia
 C) Cystic fibrosis
 D) Parkinson's disease
- Q.212 Total extent of biosphere is about:**
 A) 6-8 km
 B) 8-10 km
 C) 12-16 km
 D) 16-20 km
- Q.213 Xerosere is:**
 A) Primary succession on land
 B) Primary succession in water
 C) Secondary succession on land
 D) Secondary succession in water
- Q.214 It is an association between two organisms, which bring benefit to both:**
 A) Competition
 B) Predation
 C) Parasitism
 D) Symbiosis
- Q.215 The total amount of energy fixed by plants is:**
 A) Net primary production
 B) Gross primary production
 C) Net secondary production
 D) Gross secondary production
- Q.216 Which of the following is not cause of greenhouse effect?**
 A) Over-urbanization
 B) Deforestation
 C) Industrialization
 D) Eutrophication
- Q.217 Which concept was wrong as presented by Lamarck?**
 A) Development of organs due to extensive use
 B) Deterioration due to disuse of organ
 C) Evolution of specific adaptations
 D) Inheritance of acquired characters
- Q.218 Gill pouches are examples of:**
 A) Homologous organs
 B) Analogous organs
 C) Vestigial organs
 D) None of these
- Q.219 Haemophilia B is due to absence or abnormality of blood clotting factor:**
 A) VIII
 B) IX
 C) X
 D) XI
- Q.220 All of the following traits are inherited in zigzag manner except:**
 A) Haemophilia A
 B) Protanopia
 C) Hypophosphatemic rickets
 D) Pattern Baldness